

# Do you know what trouble lurks in your machinery? We do.

With the Fluke 810, you can now take a vibration expert with you. The Fluke 810's diagnostic technology combines powerful algorithms with a database of real-world measurement experience, making the Fluke 810 the most advanced troubleshooting tool for mechanical maintenance teams.

## The breakthrough technology behind the answer...

The Fluke 810 makes vibration testing easier so you can spend less time looking for the problem and more time fixing it. Using a sensor ("accelerometer") that measures vibration in three different directions simultaneously, the Fluke 810 collects vibration data over a short time period. In order to isolate the details of various mechanical faults, the Fluke 810 converts the time-based data into frequency-based vibration spectra. These spectra are now ready for analysis by the onboard diagnostic engine.

The diagnostic engine takes a systems approach by viewing a machine as the sum of its individual components (i.e. motor + coupling + pump). This is because each component has a unique vibration signature that contributes to an overall picture of the drivetrain's health. The diagnostic engine uses pattern recognition and a rules database to identify the faults. There are 4700+ algorithms and rules developed through real-world maintenance experience that are designed to detect bearing problems, misalignment, unbalance and looseness and assess severity.

Unlike more complex vibration analyzers designed for longer-term condition monitoring programs, the Fluke 810 is a troubleshooting tool designed to give you immediate answers. It does not require you to establish an initial baseline reading then collect information over time for comparison. The Fluke 810 uses a unique "synthetic baseline" technology to determine fault severity by simulating a fault-free condition and instantly comparing it to the collected data. A synthetic baseline is dynamically generated based upon the drivetrain configuration and the collected data is subsequently compared to this baseline. The extent to which the data's amplitude exceeds the baseline determines the severity of the mechanical fault.

The diagnostic engine has been field-tested for years by trained consultants working on mission critical systems. The Fluke 810 puts the knowledge of these consultants in your hands so you can diagnose and repair mechanical problems quickly and with minimal training.

**For more information, visit us at [www.fluke.com/vibration](http://www.fluke.com/vibration)**

## Did You Know?

The technology and the rule base behind the 810 was initially developed for the US Navy to be used in aircraft carriers. The diagnostic engine was designed to mimic the thought process of an experienced human vibration analyst. This technology has been used by the US Navy for several years and tested in many industries such as Oil/Gas, Pulp/Paper and Pharmaceuticals.

